

## **REMARKS**

1. After entry of this paper, claims 1-8, 10-18, 20, 23, and 24 are pending.

Reconsideration of the application is respectfully requested.

2. The undersigned attorney conducted a teleconference with Examiner Karls on April 15, 2008, to discuss U.S. Patent 6,651,287 to Oikawa et al. (Oikawa) and independent claims 1 and 11. The Examiner and the undersigned agreed during this teleconference that Oikawa does not describe at least one light source and/or at least one light detector positioned adjacent to the peripheral edge of the calibration unit.

Accordingly, newly presented independent claim 23 recites, inter alia, “. . . at least one light source for positioning adjacent a peripheral edge of the calibration unit, to generate at least one light beam across a surface of the calibration unit in a plane substantially corresponding to the surface of the calibration unit; and at least one light detector for positioning adjacent the peripheral edge of the calibration unit, to detect the at least one light beam . . . .” Newly presented independent claim 24 recites, inter alia, “. . . at least one light source positioned on the stage adjacent to a peripheral edge of the calibration unit for generating at least one light beam across a surface of the calibration unit in a plane substantially corresponding to the surface of the calibration unit; and at least one light detector positioned on the stage adjacent to the peripheral edge of the calibration unit for detecting the at least one light beam . . . .”

Support for the subject matter of claims 23 and 24 can be found, for example, on page 3, paragraph [0014] through page 5, paragraph [0016] of the originally filed specification.

Applicants respectfully submit that claims 23 and 24 are allowable over the cited prior art of record.

3. Claims 1-3, 10-13, and 20 stand rejected under 35 U.S.C. 102(a/e) as being anticipated by Oikawa. Claims 4-5 and 14-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa. Claims 6-7 and 16-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa. Claims 8 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa.

The claims require, inter alia, “. . . at least one light source positioned to generate at least one light beam across a surface of the calibration unit in a plane substantially corresponding to the surface of the calibration unit . . . .”

In contrast, Oikawa describes a pivot arm 23 mounting a cleaning member 21. A light-emitting device 27a and the light-receiving device 27b are connected to the pivot arm 23 by support members 41 and 42. The light-emitting device 27a and the light-receiving device 27b detect whether the cleaning element 21a has fallen off or been removed from the holding element 21b of the cleaning member 21.

As can be seen in FIG. 17, the light-emitting device 27a and the light-receiving device 27b are both suspended above a wafer Wf (calibration unit according to the Examiner), and not on the surface of the wafer Wf as argued by the Examiner. As can also be seen in FIG. 17, the light 28 emitted from the light-emitting device 27a travels in a path which extends through a middle portion of the cleaning element 21a. Accordingly, the light 28 emitted from the light-emitting device 27a is in a plane above the surface of the calibration unit and not in a plane substantially corresponding to the surface of the calibration unit, as argued by the Examiner. Hence, Oikawa does not expressly or inherently describe “. . . at least one light source positioned to generate at least one light beam across a surface of the calibration unit in a plane substantially corresponding to the surface of the calibration unit . . . .” as called for in the claims.

Further, the claims now require, inter alia “ . . . wherein as the brush is moved toward the surface of the calibration unit, the at least one light beam is interrupted by the brush when a cleaning end of the brush contacts the plane.”

When the brush element 21a in Oikawa is moved toward the surface of the wafer Wf, the light beam 28 is not interrupted by the brush element 21a when a cleaning end of the brush element 21a contacts the plane, because the light 28 is already interrupted by the brush element 21a even before the cleaning end thereof makes contact with the plane substantially corresponding to the surface of the wafer Wf. The only time the light beam 28 is not interrupted by the brush element 21a is when the brush element 21a falls off the holding element 21b. Accordingly, Oikawa does not expressly or inherently describe “ . . . wherein as the brush is moved toward the surface of the calibration unit, the at least one light beam is interrupted by the brush when a cleaning end of the brush contacts the plane,” as now called for in claims 1-8, 10-18, and 20.

For at least the above stated reasons, claims 1-8, 10-18, and 20 are allowable over Oikawa.

Claims 10 and 20 further recite “ . . . the at least one light source and the at least one light detector are disposed on the surface of the calibration unit.” The Examiner argues that the light source and light detector in Oikawa are on the surface of the wafer Wf (calibration unit) in FIG. 17 and therefore, rejects claims 10 and 20 under 35 U.S.C. 102a/e, as being anticipated by Oikawa, because claims 10 and 20 each fail to state that the light source and detector are directly on the calibration unit.

It is respectfully submitted that claims 10 and 20 do not need to recite that the light source and detector are directly on the calibration unit to distinguish over Oikawa because: 1) claims 10 and 20 respectively depend from claims 1 and 11, which are allowable over Oikawa,

and 2) Oikawa does not expressly or inherently describe any light source and light detector that is disposed on the surface of a calibration unit. As is clearly shown in FIG. 17, the light-emitting device 27a and the light-receiving device 27b are both suspended above the wafer Wf or “calibration unit,” and not on the surface of the calibration unit, as erroneously argued by the Examiner.

In view of the foregoing, withdrawal of the rejections using Oikawa is respectfully requested.

4. Favorable reconsideration of this application is respectfully requested as it is believed that all outstanding issues have been addressed herein and, further, that claims 1-8, 10-18, 20, 23 and 24 are in condition for allowance. Should there be any questions or matters whose resolution may be advanced by a teleconference, the examiner is cordially invited to contact the undersigned attorney at his number listed below.

5. The Director is authorized to charge the fee for the RCE and any payment required under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17, which are associated with this paper, or credit any overpayment to Deposit Account No. 04-1679.

Respectfully submitted,

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